Practice Study Overview

This practice project is based on a dummy deployment of a semi-autonomous humanoid robot named *Lexi* in a public library. Lexi was designed to assist library visitors by proactively offering help, guiding them to sections (e.g., Fiction, Children's Books), and recommending titles via touchscreen and voice.

Your task is to use **MoFASA Tools** to analyze how people responded to Lexi. While all participants encountered the same robot in the same environment, their responses varied dramatically. Some found it helpful, others were annoyed, and a few simply ignored it.

As you review this project, look for patterns that emerge across the dimensions of **Situation**, **Identity**, and **Definition of the Situation**. Use the MoFASA framework to go beyond how the participants reacted — and start uncovering *why* they reacted that way. Then try to brainstorm solutions to mitigate or decrease the undesirable responses the participants gave.

Affordances of the MoFASA Framework

1. Personae Mapping

This view reveals how people's self-understandings - who they are, how they see themselves, and what they value - shape their interpretation of robot behavior and their subsequent actions. In this way, it foregrounds human identity as a central part of HRI analysis.

MoFASA allows researchers and designers to capture identity-driven behavior across individuals. By analyzing how different people interpret the same robot behavior through their unique lenses, we can map out a diverse range of personae. This mapping avoids overgeneralized user models and instead centers the rich diversity of human perspectives - a critical capability when designing robots for everyday, public settings.

This affordance also supports inclusive design. Rather than designing for the "average user," MoFASA encourages us to ask:

- *Who is this robot behavior appropriate for?*
- *Who might find it alienating, confusing, or even threatening?*

These questions are essential to building socially appropriate, widely acceptable robotic systems.

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2. Behavioral Diversity

This view helps you systematically examine the range of human behaviors in a situation where all of them interacted with the same robot in the same environment. Here you can have a visual representation of the full spectrum of responses that people interpret as socially appropriate — or not.

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3. Situation Design (Prioritize This Step)

This section empowers you to reimagine and redesign the robot's behavior or the environment to improve social appropriateness.

Your Task:

- Identify undesirable rules from the left panel. Clicking a rule will show which participants followed that rule.
- For each undesirable rule, examine the participants who used it: their demographics, circumstances, and responses.
- In the right panel, note down what might have gone wrong. What factors (situational or identity-based) could have shaped this behavior?
- Based on your notes, look for underlying patterns or shared triggers.
- Then, propose changes - in either the robot's design (e.g., timing, appearance, voice) or the environment (e.g., signage, context cues) - that could mitigate the undesired behavior.

⚠️ **Remember:** The goal is not to "fix" the user, but to **adapt the robot or its surroundings** to better support socially appropriate interactions. By prioritizing situation redesign over user correction, you center human needs - and make your robots more resilient in the real world.

Lexi the Robo-Librarian: An In-the-Wild Study of Human Behavior towards Lexi at a Community Library.

Study Description

This in-the-wild study explores how people in a public library interact with a semi-autonomous robot named Lexi. Lexi is designed as a humanoid to assist users by providing navigation support and book recommendations through a touch screen and voice prompts. The robot operates proactively: it approaches individuals who appear idle or disoriented and offers help. If the person agrees, Lexi guides them to a relevant library section (e.g., Children's Books, Fiction, Reference) and then recommends a list of books once they arrive. If the person declines, Lexi thanks them and moves on to find someone else.

The deployment lasted for 3 days, during which 57 individuals interacted with Lexi. This report presents a qualitative subsample of 10 participants, selected for diversity in age, background, and behavioral responses. Each was interviewed shortly after their interaction with Lexi, with a focus on understanding how their identity and situational context shaped their interpretation of the interaction.

Participant Interviews (N = 10)

All interviews were conducted post-interaction using semi-structured prompts.

Participant 1 — Sofia

Age: 28
Gender: Female
Profession: Librarian

Researcher: Can you tell me what happened when the robot approached you?
Sofia: Yeah, I've seen it around before, so I wasn't too surprised. When it asked if I needed help, I figured why not? I was heading to the Reference section anyway. It pointed me in the right direction, and I followed. Honestly, I just appreciated not having to interrupt one of my coworkers — they're usually pretty busy.

Researcher: And what about when it showed you book suggestions?
Sofia: Oh, I didn't really look. I already knew what I was after, so I just smiled and moved on. It was a nice touch, though.

Participant 2 — Amir

Age: 65
Gender: Male
Profession: Retired Engineer

Researcher: Tell me about your interaction with the robot.
Amir: It startled me, to be honest. I didn't hear it clearly — my hearing isn't great — and it just started talking. I didn't know what it wanted, so I ignored it and kept walking.

Researcher: Did it try to interact with you again?
Amir: Yeah, it kind of followed me a bit and said something about books, I think. But by then I was already looking for a staff member. I prefer speaking to people, especially if I'm not sure what the machine is doing.

Participant 3 — Maya

Age: 17
Gender: Female
Profession: High School Student

Researcher: How did you feel when the robot came up to you?
Maya: It was so cute! I didn't actually need help, but I said yes anyway just to see what it would do. It led me somewhere and stayed beside me — kind of like a little pet or something.

Researcher: Did you look at the books it suggested?
Maya: Yeah, it showed me some teen fiction. I didn't pick any, but it was fun. I like that it talked — it made the whole thing feel more interactive. I'd do it again just for fun.

Participant 4 — Eli

Age: 33
Gender: Non-binary
Profession: Software Developer

Researcher: Walk me through what happened when the robot approached.
Eli: I was on a call at the time, and it didn't seem to recognize that. It just started talking. I waved it off, but it kept prompting me. It kind of made the situation more awkward than it needed to be.

Researcher: And how did it go when it recommended books?
Eli: I was trying to concentrate on my phone call, and it interrupted again. I didn't really engage. It felt like it wasn't aware of my need for space or focus, which made it frustrating.

Participant 5 — Linda

Age: 43
Gender: Female
Profession: Parent of 3

Researcher: What happened during your interaction with the robot?
Linda: Well, I had my toddler with me, so I was already juggling a lot. The robot rolled up and tried to help, but honestly it was a bit of a distraction. My kid got excited and wanted to follow it around, which wasn't ideal because I needed to use the washroom.

Researcher: Did you find the book suggestions helpful?
Linda: It showed me some kids' books, which was nice in theory. But I was overwhelmed already, and I couldn't focus on what it was saying. It just wasn't the right time for that kind of interaction.

Participant 6 — Tom

Age: 22
Gender: Male
Profession: University Student

Researcher: Can you describe how the robot interacted with you?
Tom: Yeah, it was cool. I was actually looking for a specific book and didn't want to wait at the desk. The robot offered help, and it took me right to the section. Super efficient.

Researcher: Did you explore the book suggestions afterward?
Tom: I did. One of them looked interesting, so I took a photo of the cover. I'd definitely use the robot again if it saves me time.

Participant 7 — Daniela

Age: 31
Gender: Female
Profession: Grad Student (Sociology)

Researcher: How did you feel when the robot offered to help?
Daniela: I wasn't really lost, but I didn't want to seem rude, so I said yes. It felt like saying no might "offend" the robot, even though I know that makes no sense. It's weird — I treat it like a person even though I know it's not.

Researcher: And what did you do with the book recommendations?
Daniela: I didn't really want any, but I scrolled through them a bit. Honestly, I was more interested in seeing how the interface worked than the actual books. Like, I was kind of analyzing it in my head.

Participant 8 — Caleb

Age: 52
Gender: Male
Profession: Custodian

Researcher: Did you accept the robot's navigation help?
Caleb: I did, yeah. I knew where I was going, but I figured I'd give it a shot. But honestly, it went slower than I would've liked. I walked ahead of it eventually.

Researcher: How did the book suggestions go?
Caleb: I didn't really pay attention. I think I tapped a few buttons. Not much use to me, but it was harmless. I guess I didn't mind it being there — just wouldn't rely on it.

Participant 9 — Nia

Age: 39
Gender: Female
Profession: Public School Teacher

Researcher: Tell me about your interaction.
Nia: At first I thought it was great — very futuristic. I let it guide me even though I wasn't in a rush. But when it started showing books, I felt kind of… judged? Like it was trying to predict

what I'd like based on where I was. I know it's just programming, but it rubbed me the wrong way.

Researcher: So what did you do?
Nia: I clicked out of it. It's hard to explain — I liked the idea of it, but not how it was executed.

Participant 10 — Marcus

Age: 24
Gender: Male
Profession: UX Designer

Researcher: What happened when the robot approached?
Marcus: It was smooth, actually. I didn't need help, but I was interested in how it handled the interaction. I tried a few responses just to see what it would do. Honestly, I was low-key testing it.

Researcher: Did the book suggestions interest you?
Marcus: I didn't care about the books — I was more focused on how the interface responded. I took a video actually, for reference.

Participant 11 – Farah

- **Age**: 29
- **Gender**: Female
- **Profession**: Librarian

Researcher: What happened when the robot came up to you?

Farah: I had just sat down with an individual to help her fill out a form, and the robot rolled up and started talking mid-conversation. I waved at it to go away, but it kept prompting me — even after I said, "I'm busy."

Researcher: How did that make you feel?

Farah: Honestly? It was embarrassing. I had to raise my voice and say, "Not now!" and the individual I was helping looked confused. It made me feel like I wasn't being respected in my own workspace.

Participant 12 – Jonah

- **Age**: 46
- **Gender**: Male
- **Profession**: Security Guard

Researcher: Can you walk me through your interaction?

Jonah: I was doing my usual rounds, standing near the kids' section, and the robot just rolled right up and said, "Can I help you find something?" I wasn't lost, obviously. I said, "I work here," but it didn't seem to register. Then it offered to guide me somewhere - like I was a guest.

Researcher: What did you do next?

Jonah: I just ignored it and walked off. But to be honest, it felt like it didn't "see" me. I had the badge on; I was in uniform. It should have been able to tell I wasn't the kind of person it should approach.